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CHRONICLE OF THE WORLD HEALTH ORGANIZATION

Second Session of the Executive Board
Unification of Pharmacopœias
Pestilential Diseases
Tuberculosis Control

WORLD HEALTH ORGANIZATION

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CHRONICLE OF
THE WORLD HEALTH
ORGANIZATION

VOL. II, No. 11 November 1948

PLAN FOR THE CONTROL OF TUBERCULOSIS IN UNDER-DEVELOPED COUNTRIES

Third Session of the Expert Committee on Tuberculosis

During its third session, held in Paris 15-19 October 1948,[1] the Expert Committee on Tuberculosis [2] drew up a suggested plan for tuberculosis control intended for those countries which, up to now, have little or no existing programme.

Tuberculosis, as has been frequently pointed out in previous issues of the *Chronicle*, constitutes one of the main preoccupations of WHO. The ravages of the disease in most countries which have been theatres of war have reached alarming proportions, and it is for this reason that WHO has devoted so much effort during the last two years to the control of tuberculosis. WHO has assumed the scientific responsibility for a BCG vaccination campaign of a magnitude hitherto unknown, in which 50 million children will be examined and probably 15 million vaccinated in many European countries.[3] BCG campaigns have recently been inaugurated in

[1] The report on the third session will be published in *Off. Rec. WHO*, 15

[2] The following members were present :

Dr. P. M. d'Arcy Hart, Farm Laboratories, National Institute for Medical Research (Medical Research Council), London, United Kingdom

Dr. H. E. Hilleboe, Commissioner of Health, New York State Department of Health, Albany, N.Y., USA

Dr. J. Holm, Chief, Tuberculosis Division, State Serum Institute, Copenhagen, Denmark (Chairman)

Secretary : Dr. J. B. McDougall, member of the Secretariat of WHO

[3] *Chronicle WHO*, 1948, 2, 34

India and Ceylon under the auspices of the Organization, which has sent experts to advise on the production and application of BCG.[4]

The health missions of WHO in Austria, China, Ethiopia, Greece, Italy and Poland have been contributing in many ways to the control of tuberculosis.[5] The contribution of WHO in the purely scientific field, if less spectacular, has been none the less important, and has included consideration of the standardization of BCG and tuberculin, and the formulation of principles governing streptomycin therapy.[6]

It is clear, however, that WHO alone cannot hope to obtain decisive results in the fight against tuberculosis. It is the national health-administrations which must undertake measures to reduce tuberculosis mortality- and morbidity-rates. To assist the health authorities of those countries which have as yet no anti-tuberculosis programme, the Expert Committee on Tuberculosis has taken the initiative of drawing up a general plan which can be varied according to the countries concerned, so that it can respond to the needs, the resources and the psychological attitude of the peoples.

According to the expert committee, in a country with limited means a logical anti-tuberculosis programme should aim, not at the treatment of advanced cases, but at preventing the spread of the disease by the treatment of known infectious cases and the protection of highly exposed groups. To accomplish these objects various administrative and technical measures must be taken, the broad outline of which has been suggested by the committee.

Anti-Tuberculosis Survey

A survey, possibly by a tuberculosis specialist provided by WHO, should be made on existing information on tuberculosis morbidity-rates in the country, or information should be collected by means of rapid examinations of certain population groups. It would also be important to ascertain the psychological attitude of the people and to make contact with those groups that are already interested in tuberculosis control or are likely to become so.

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[4] *Chronicle WHO*, 1948, **2**, 229

[5] *Ibid.* 1947, **1**, 184 ; 1948, **2**, 120

[6] *Ibid.* 1947, **1**, 107 ; 1948, **2**, 117, 215

Technical Organization

A technical organization should be set up as the result of the survey and should be composed as follows :

Central group

This group would comprise representatives of public-health administration, epidemiology, laboratory and clinical subjects, and public-health nursing. One person of the group could cover more than one subject. The group should be directed by a person experienced in public-health administration, possibly a specialist from outside, but on a temporary basis only.

It might not be possible to obtain all the personnel of the group at the beginning of the programme. In many countries the greatest assistance that WHO could render in tuberculosis control would be to train personnel as a group in special centres. When the central group returns to its own country, it must assume responsibility for the training of new personnel.

The organization will carry on its work on three different planes :

Central laboratory

This laboratory, which may be supplemented later by subsidiary decentralized laboratories, should be concerned with exact diagnosis of tuberculosis according to the latest scientific methods. It should preferably work in association with a general bacteriological laboratory.

Records

It would be advisable to establish a record- and filing-system so that the centre would have the documents containing all data on diagnosed cases. These records could form the nucleus for a more comprehensive system throughout the country, in the event of tuberculosis notification becoming compulsory.

Medical care (at home and in hospitals)

These measures, the purpose of which is to avoid or to limit the spread of tuberculosis, would vary according to the possibilities in each country.

Home nursing services. Home care, which ensures only partial isolation of infectious cases, must be considered as a temporary

measure to be used only when the number of hospitals is found to be inadequate. WHO could be of great assistance in helping to train personnel devoted to this work.

Hospital facilities. Hospital facilities should be the object of a special study. Hospitalization and the treatment of recognized cases should be as simple as possible. The number of beds needed and the time-schedule for obtaining them would be determined according to the conditions in each country. Dispensaries, separate from but working closely with hospitals, should be established in communities where their usefulness is obvious.

As far as the budget and the allocation of funds are concerned, the committee believed that the object should be to obtain the largest possible number of hospital beds for the isolation of patients and to ensure the extension of proper treatment to arrest the disease. Thus it would seem unwise to spend available funds on the construction and maintenance of the most modern type of sanatoria, fully equipped with every facility for surgical and other treatment. Such costly institutions would accommodate only a small number of patients. Similarly, in countries with limited resources, little could be accomplished by spending large sums on a model tuberculosis-control programme in a small selected area, as this would have little effect on the tuberculosis-control problem of the country as a whole.

Vaccination

Finally, a large-scale BCG vaccination programme should form one of the elements of the anti-tuberculosis campaign, it being always understood, however, that vaccination by itself cannot be expected to control the disease.

Mass radiography

The committee was firmly convinced that mass radiography should not be undertaken in countries with little or no facilities for exact diagnosis or for the supervision of persons (laboratory services, dispensaries and hospital care). In other words, there would seem little value in radiography of the lungs of millions of people if no subsequent measures were taken. Mass radiography is effective as a control procedure only in countries with highly developed tuberculosis-control programmes where large groups of the

population can be examined within a definite period of time. At the same time, if large numbers of persons requiring sputum examination to confirm or exclude the diagnosis of infectious tuberculosis are already known to physicians in the country, there is no point in detecting an additional number of suspected cases by mass radiography, until laboratory examinations and exact diagnoses have been made in the first-mentioned group.

UNIFICATION OF PHARMACOPŒIAS

The Expert Committee on the Unification of Pharmacopœias held its second session from 31 May to 5 June 1948, and its third session from 15 to 23 October 1948, in Geneva.[1]

During these two sessions,[2] the chief work before the committee was the examination of a large number of monographs to be included in the international pharmacopœia, publication of which is expected during 1949. Preparation for this work, which had been started by the Technical Commission of Pharmacopœial Experts of the League of Nations and had been interrupted by the war, has continued under the auspices of WHO. It will be recalled that, at its first session, the committee had divided drugs into three categories: category A, comprising those drugs extensively used in modern therapeutics; category B, drugs of secondary importance; and category C, comprising drugs not considered worthy of inclusion.[3]

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[1] The following members were present:

Professor H. Baggesgaard-Rasmussen, Chairman, Chemical Division of the Danish Pharmacopœia Commission, Copenhagen, Denmark

E. Fullerton Cook, M.Sc., Chairman, Committee of Revision of the Pharmacopœia of the United States of America, Philadelphia, Pa., USA

I. R. Fahmy, Ph.D., Professor of Pharmacognosy, Fouad I University, Cairo, Egypt; Secretary of the Egyptian Pharmacopœia Commission

H. Flück, Dr. Sc. Nat., Professor of Pharmacognosy, Eidgenössische Technische Hochschule, Zürich, Switzerland; member of the Swiss Federal Pharmacopœia Commission

Dr. C. H. Hampshire, Secretary of the British Pharmacopœia Commission, General Medical Council Office, London, United Kingdom *(Chairman)*

Dr. R. Hazard, Professeur de Pharmacologie et de Matière médicale à la Faculté de Médecine de l'Université de Paris, France (prevented by illness from attending the second session; took part in the third)

Professor D. van Os, Professor of Pharmaceutical Chemistry and Toxicology, University of Groningen, Netherlands; President of the Netherlands Pharmacopœia Commission

[2] The report on the second session of the expert committee will be published in *Off. Rec. WHO*, **11**; that on the third session in *Off. Rec. WHO*, **15**

[3] *Chronicle WHO*, 1947, **1**, 149

During its last two sessions, the committee examined 162 draft monographs of drugs in category A.

During the examination of the individual monographs, many questions of general interest came up for discussion relating to methods of analysis and to the various tests and assays, the description of which is to appear in the general notices of, or in appendices to, the pharmacopœia. Improved production methods and the ever-increasing purity of chemical substances make necessary the constant revision of much data.

As a uniform method is essential for the attainment of uniform results, methods of determining melting and boiling ranges were discussed and approved during the third session. All the melting and boiling ranges published in the pharmacopœia will be arrived at in accordance with techniques adopted by the committee.

Biological tests, and tests of the activity and toxicity of potent drugs and of arsenicals and antitoxic sera were discussed at length. Tests will be suggested in appendices to the monographs, but they will not be obligatory, as in most countries official regulations require tests for which those of the pharmacopœias cannot be substituted.

A table of usual and maximum doses for drugs in common use was drawn up and will be submitted to the members of the committee, who will refer it to physicians in their respective countries for comment.

With regard to nomenclature, the Latin name of the drug will be followed by the chemical name of the substance, its usual formula, and its structural formula wherever useful. Synonyms will be used, but not as a general rule.

A problem in nomenclature arose during the examination of monographs on antitoxins. Ambiguity may arise from the fact that the French word " antitoxines ", which in the draft monographs was used for antitoxic sera, refers only to antitoxins in a pure state and not to the antitoxic sera. Thus, to avoid any confusion, it was decided that the Latin term *sera antitoxica* should replace *antitoxina*. Each serum will take its name from the bacterial toxin which it acts upon, e.g., *serum antidiphtericum*, *antitetanicum*, etc.

Vaccines will be omitted from the draft pharmacopœia, in view of the impossibility at the present time of establishing satisfactory

international standards for them. Only old tuberculin has been retained, as a satisfactory standard already exists.

Relationship with other expert committees

The study of certain groups of monographs requires consultation with other expert committees, monographs concerning habit-forming drugs, for example, being sent to the Expert Committee on Habit-forming Drugs for its opinion.

The final presentation of monographs on vaccines, antitoxic sera, hormones and vitamins will depend on decisions taken by the Expert Committee on Biological Standardization, the opinion of which will also be invited with a view to establishing potency tests for arsphenamines and antitoxic sera. For the definition of vitamin A and D units (which appear in the monographs on fish-liver oils), the decision of the Subcommittee on Liposoluble Vitamins, set up by the Expert Committee on Biological Standardization, will be awaited.

The committee agreed to inform the Expert Committee on Malaria of the decision taken on quinine sulphate, the standard of purity of which has been so fixed that the product will remain cheap enough for widespread use in any antimalarial campaign. It was agreed, moreover, that the Expert Committee on Malaria should suggest essential antimalarial drugs for inclusion in the pharmacopœia.

After having allocated the share of each member in the preparation of monographs, revision of certain data and the comparative study of various methods and tests, the committee suggested that its fourth session should be held at the end of April 1949.

SECOND SESSION OF THE EXECUTIVE BOARD

Geneva, 25 October — 11 November

The main task before the Executive Board, at its second session recently held in Geneva, was to give specific application to the plans and policies formulated by the first World Health Assembly. At the same time the members had an opportunity of assessing the progress of the Organization since it assumed adult status on 1 September 1948.

After 18 days of debate on a wide range of topics, approval was given on 11 November to the draft report on the session, which listed the many important decisions reached—some directly concerned with the health programme, some with WHO's expanding structure, others dealing with its relationships with other bodies in allied fields.

The meetings, under the chairmanship of Sir Aly Shousha, Pasha, were attended by sixteen of the eighteen members of the Board.[1] Observers represented the United Nations, FAO, ILO, IRO, the Interim Commission of the International Trade Organization, the Office International d'Hygiène Publique and UNESCO.

The first session of the Board, held in July at the close of the Health Assembly, had largely devoted itself to organizational matters ; the agenda of the second session covered a much wider field, but special attention was paid, on the organizational side, to the regional development of WHO.

South-East Asia Regional Office

The Board noted with particular satisfaction two important steps towards implementation of the regional system contemplated by the Health Assembly. The first of these was the plan for the South-East Asia Regional Office drawn up at New Delhi on 4 and 5 October.[2]

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[1] The following attended: Dr. C. van den Berg (Netherlands); Dr. D. A. Dowling (Australia) ; Dr. K. Evang (Norway) *Vice-Chairman* ; Dr. H. S. Gear (Union of South Africa) ; Dr. M. H. Hafezi (Iran) ; Dr. H. van Zile Hyde (United States of America) ; Dr. B. Kozusznik (Poland) ; Dr. M. D. Mackenzie (United Kingdom) ; Dr. C. Mani (India) ; Prof. J. Parisot (France) ; Dr. G. H. de Paula Souza (Brazil) ; Sir Aly Shousha, Pasha (Egypt), *Chairman* ; Dr. A. Stampar (Yugoslavia) ; Dr. W. G. Wickremesinghe (Ceylon) ; Dr. W. W. Yung (China), *Vice-Chairman*; Dr. J. Zozaya (Mexico)

[2] *Chronicle WHO*, 1948, **2**, 225

Dr. Mani (India) in his statement said that the members of the regional committee had been particularly conscious of the fact that they had embarked on the first regional effort of WHO. The significance of the event was also emphasized by the Chairman, who observed that the steps that had made it possible might well serve as a pattern for other regional organizations.

In approving the establishment of the office, which will come into being on or about 1 January 1949, the Board unanimously appointed Dr. Mani its Director, thereby endorsing the nomination of the regional committee. He was warmly congratulated by the Chairman and other colleagues, who spoke in high terms of his services as a member of the Interim Commission and the Executive Board.

The regional committee's choice of New Delhi as the site of the regional office was approved by the Board, subject to consultation with the United Nations.

Agreement with PASO

The second important regional development reported to the Board was the acceptance on 12 October, by the Directing Council of the Pan American Sanitary Organization, of the draft agreement between WHO and PASO.[3]

In presenting his report on the negotiations, Dr. Zozaya emphasized that the agreement had been endorsed unanimously by the 19 countries members of PASO at the Mexico City meeting.

In the discussion on the subject, members of the Board expressed the view that this initial agreement, though an important step forward, would not constitute final and complete " integration ". It was nevertheless recognized that the agreement would enable the Pan American Sanitary Bureau to act as a regional organization and to receive funds from WHO for those of its activities undertaken on behalf of the Organization.

Administrative Office for Europe

The site of the proposed temporary special administrative office for health rehabilitation of war-devastated countries in Europe was discussed, but several members felt that it was still too early to take

[3] *Chronicle WHO*, 1948, 2, 235

a final decision. The Board decided that the Director-General should establish an office at his discretion, after opinions had been expressed at the conference to be held on the subject immediately after the session.

Regional Administration

Of the 300,000 dollars provided for administrative purposes under the regional budget, the Board allocated 200,000 dollars for the administration in 1949 of those regional organizations to be established in the near future. The allocation of the remaining 100,000 dollars will be considered at a later session : should additional regional organizations be established in 1949, the sum will be used for their development ; otherwise it will be made available to those already in existence.

Tuberculosis Research Programme

Among the many absorbing topics to which members of the Board would obviously have liked to devote more time, had their busy schedule permitted, was the BCG vaccination campaign now being carried on in nine European countries by UNICEF and the Danish Red Cross and its Scandinavian associates, with technical assistance from WHO.

A research programme which might be undertaken in conjunction with the campaign was outlined by Dr. J. Holm, director of the joint project, and Dr. C. Palmer, UNICEF tuberculosis research expert.

The Board accepted responsibility for the promotion of such research, and earmarked for the purpose the sum of 100,000 dollars, part of a grant received from UNRRA.

Dr. Palmer indicated six types of research which could be integrated into the general BCG programme :

(*a*) investigation of the criteria for vaccination ;

(*b*) development, testing and use of a preserved vaccine ;

(*c*) revaccination and the value of criteria in the selection of groups to be vaccinated ;

(*d*) collection of statistical material ;

(*e*) research on the effectiveness of BCG, as one of the techniques in the control of tuberculosis ;

(*f*) miscellaneous studies, such as family and racial differences in susceptibility and resistance to tuberculosis, response to

artificial immunization ; preservation of records ; general evaluation of the effect of the programme and of the possibility of obtaining better morbidity and mortality statistics.

Bureau of Medical Supplies

A recommendation on the setting-up of a bureau to give advice on the procurement of essential drugs, biological products and other medical supplies had been referred to the Board by the Health Assembly.

To implement this recommendation, the Board approved the establishment, in the headquarters office of WHO, of a unit to provide a medical-supply advisory service. Its chief function will be to furnish information and advice to governments, but in cases of emergency the unit may itself act as a procurement body.

At the same time, the Board authorized the Director-General to make preliminary studies on the possibility of encouraging production in countries possessing raw materials but unable to manufacture finished products.

Mental Health

A report on the International Congress for Mental Health, held in London in August, was submitted by the Director-General.

The recommendations addressed to WHO [4] were approved in principle, and the Director-General was requested to consult with the World Federation for Mental Health on preliminary studies in connexion with long-term plans for comparative studies in mental health.

The Board felt that certain other studies and surveys in addition to those suggested by the International Preparatory Commission should be undertaken in co-operation with other specialized agencies such as UNESCO, or with sections of the United Nations.

Advisory and Demonstration Services and Fellowships

The Board authorized an appropriation of 800,000 dollars for advisory and demonstration services to governments and approved an allocation of 650,000 dollars for fellowships and medical literature.

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[4] *Chronicle WHO*, 1948, **2**, 222

So many requests for assistance had been received, however, that it was clear that they could not all be met by these sums. Twenty-eight governments desired advisory and demonstration services, 30 had asked for fellowships, and from 21 had come requests for medical literature, supplies and equipment. The total list represented, at a rough estimate, at least twice the amount available for advisory and demonstration services, and almost four times that earmarked for fellowships.

The Board therefore adopted a set of guiding principles which will be taken into consideration in the approval of the advisory and demonstration programmes.

The first criterion will be whether the services are in fact available under the WHO programme. Relevant decisions, plans or programmes of the United Nations or specialized agencies will also be taken into account, as well as such considerations as the importance of the problem to the whole health programme of the requesting country ; the ability of the country itself to provide the services ; the probability of achieving successful and useful results, and relevant recommendations of an expert committee. On the part of the government there should be reasonable assurance both of satisfactory co-operation, and, where appropriate, of continuance of the programme.

As the requests mount beyond the available budget, every effort will be made to ensure equitable distribution, by progressively stricter application of the guiding principles.

A sum of 70,000 dollars which had not been specifically allocated by the Health Assembly will be utilized in accordance with these principles for the expansion of field services in malaria, tuberculosis, venereal diseases, maternal and child health, and public-health administration.

Venereal-Disease Control

A useful exchange of views took place on certain aspects of the report on the second session of the Expert Committee on Venereal Infections [5] which came before the Board for approval.

One of the expert committee's recommendations was that WHO should study ways and means of increasing the dissemination of technical information on venereal-disease control methods, to meet

[5] A note on the report will appear in a forthcoming issue of the *Chronicle* — Ed.

the requests of governments. The committee specifically suggested that a temporary study-group, consisting of a limited number of outstanding venereologists from Europe and other regions, be established in 1949 to assess the value of national and international programmes of the venereal-disease control methods in use in USA.

In the ensuing discussion some members felt that the reference to Europe in the recommendation was too restrictive. It was pointed out, however, that adherence to traditional methods of treating syphilis was mainly located in Europe, and that representatives from other regions would also be included in the study-group.

Dr. Hyde observed that the survey could also be of value to the United States, as it might serve to suggest improvements in the methods employed there.

The Director-General felt that in presenting the suggestion the expert committee had courageously accepted a very difficult responsibility. A state of controversy existed as to technical procedures and practices in the treatment and control of syphilis, the centres of opposing thought being USA and Europe. He saw in the expert committee's recommendation an attempt to resolve those difficulties by bringing together the advocates of two viewpoints, to enable them to thrash out their difficulties.

The Board's approval of the recommendation was supplemented by appropriate comment reflecting the opinions expressed.

The Board was interested to note from the report that in one country experiments had recently been carried out on a possible new method of penicillin production, which aims at dispensing with the growth-media usually employed, often difficult to obtain in sufficient quantities, and utilizing instead a more readily available substance containing similar growth-factors. The expert committee felt that, should this process stand the test of mass production, it might form the basis for a wider production and accessibility of penicillin.

In approving the report as a whole, the Board agreed that surveys should be made with a view to the rehabilitation of the UNRRA penicillin plants. It noted specifically the committee's commendation of the progress made in the Polish anti-syphilis campaign.

Other Matters

The Director-General was requested to continue preliminary studies on the international aspects of such subjects as brucellosis,

rabies, dental hygiene and physical training. A number of the Board's decisions encouraged the development of technical liaison with other organizations. The draft Declaration of the Rights of the Child was studied and returned to the United Nations with certain modifications. Among the many other matters discussed were the BCG vaccination campaign in India, industrial hygiene and the hygiene of seafarers, the unification of pharmacopœias, relations with non-governmental organizations, editorial matters and publications, and personnel and budgetary questions. Fuller reference will be made to some of these in the next issue of the *Chronicle*.

QUARANTINE MEASURES AGAINST PLAGUE

Second Session of the Joint OIHP/WHO Study-Group on Plague and Typhus, Paris

The Joint OIHP/WHO Study-Group on Plague and Typhus held its second session in Paris from 5 to 8 October 1948.[1] The study of possible changes in the quarantine measures against plague, begun during the first session, was continued by the group.

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[1] The following members were present :

Dr. E. J. Y. Aujaleu, Directeur de l'Hygiène sociale, Ministère de la Santé publique et de la Population, Paris, France

Dr. G. Blanc, Directeur de l'Institut Pasteur du Maroc, Casablanca, Maroc

Dr. P. C. C. Garnham, Reader in Medical Parasitology, London School of Hygiene and Tropical Medicine, London, United Kingdom

Dr. A. Macchiavello, US Public Health Service, Consulting Epidemiologist, Pan American Sanitary Bureau, Lima, Peru

Professeur A. R. Dujarric de la Rivière, Sous-Directeur de l'Institut Pasteur, Paris, France ; and Médecin-Général Inspecteur M. A. Vaucel, Directeur du Service de Santé colonial, Ministère de la France d'Outre-Mer, Paris, France, also attended

Secretariat :

Dr. M. Gaud, Directeur de l'Office International d'Hygiène Publique, Paris, who acted as chairman

Dr. Y. M. Biraud, Director, Division of Epidemiology, WHO

Dr. W. M. Bonne, Director, Division of Planning, WHO

Dr. M. M. Sidky, Medical Officer, Division of Epidemiology, WHO

Dr. G. Stuart, Chief, Sanitary Conventions and Quarantine Section, WHO

Prophylaxis of Pneumonic Plague

As the different clinical forms of plague are due to the same causal organism, the group was of the opinion that quarantine measures against bubonic plague to be laid down in international sanitary legislation should apply equally to pneumonic plague. However, additional measures would be required in certain cases.

Thus, a focus of pneumonic plague with no tendency to spread or to form secondary foci does not require, apart from notification, any particular international action. On the other hand, when an epidemic area is formed — that is, when an increasing number of cases has given rise to distinct secondary foci — international prophylactic measures are indicated. Such measures should include, for contacts wishing to leave the zone, observation for a period of five days from the date of last exposure to infection.

The study-group recommended the prophylactic treatment of contacts with sulfonamides or streptomycin. It also recommended that, when occasion arose, a study should be made of whether prophylactic treatment with these drugs is capable of shortening the period of observation of contacts.

Protective measures for cities, air- and seaports

The study-group considered the following measures as appropriate for the protection of cities, air- and seaports :

(*a*) rat-proofing of buildings and out-buildings ;

(*b*) application of 5-10% DDT powder every six months or at intervals compatible with the maintenance of an absolute flea-index under 5 ;

(*c*) deratization with sodium fluoracetate (1080) or another effective rodenticide after DDT spraying ;

(*d*) protection of merchandise with 5-10% DDT powder ;

(*e*) application of 5-10% DDT powder to vehicles, in case of epizoötic recrudescence within an enzoötic area.

For the protection of airports, it was recommended that special measures be taken, including the maintenance of a clean zone within a radius of 200 metres around the airport buildings and the ground used for the parking of aircraft, and the exclusion from this area of

buildings which have not been rat-proofed. In addition, the application of DDT to aircraft as well as to merchandise coming from enzoötic zones and which, in the judgement of the health authorities, might contain infected fleas, was considered necessary.

In case of an epidemic in the enzoötic zone, there should be systematic application of 5–10% DDT powder to the personal effects and garments of passengers coming from the infected zone.

Among the other questions considered by the group may be mentioned : the determination of enzoötic and endemic plague-areas throughout the world, the definition of the term " sylvatic plague ", the relation between wild rodent plague and human plague, inter-human transmission of bubonic plague, anti-plague vaccination, etc.

Control of Plague in South America

Before adjourning, the study-group was informed of the results obtained by one of its members, Dr. Macchiavello, in the control of plague in South America. The combined application of DDT and 1080 had suppressed both the epidemic and enzoötic plague in villages and towns. In rural areas it suppressed the epidemic but, except in very circumscribed areas, did not control the epizoötic. In areas where wild rodent plague is prevalent, the application of DDT alone would require, in order to be effective, so large a quantity of the insecticide as to render the method impracticable.

Field experiments had shown that in the control of plague DDT powder at 5% gave better results than DDT in solution. In an area where plague appeared seasonally, one application of DDT was sufficient to prevent its return, provided it was made before the usual period of seasonal recrudescence. Among rodenticides, sodium fluoracetate (1080) was the most efficient.

The results of Dr. Macchiavello's experiments will be communicated to physicians and to sanitary personnel in a special training centre to be organized under the joint auspices of the Peruvian Government and the Pan American Sanitary Bureau.

SMALLPOX

The Joint OIHP/WHO Study-Group on Smallpox held its second session in Paris on 18-19 October 1948.[1]

The chief points for discussion were the nature of the virus, its contagiousness in the pre-eruptive stage, and vaccination.

Viruses

The study-group noted that no morphological difference had been detected between the smallpox and the vaccinia viruses when examined by the electron microscope. On the other hand, the morphological differences shown on macroscopic examination of cultures of these two viruses on the chorio-allantoic membranes of chick-embryos three or four days after inoculation might be used for differentiation. The fact that the vaccinia but not the smallpox virus will propagate on rabbit skin could also be used as a method of differentiation.

The study-group recommended that an investigation be made of possible morphological differences between the variola major and alastrim viruses by means of the electron microscope and other methods.

Contagiousness of Smallpox in the Pre-eruptive Stage

One member of the study-group reported that during experiments, within 12 hours of its formation, a papule contained the virus, which

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[1] The following members were present:

Dr. E. T. Conybeare, Medical Officer, Ministry of Health, London, United Kingdom

Professeur A. Lemierre, Académie de Médecine, Paris, France

Dr. R. E. Muckenfuss, Assistant Commissioner, New York City Health Department, New York, USA

Dr. C. G. Pandit, Secretary, Indian Research Fund Association, New Delhi, India

Professeur A. R. Dujarric de la Rivière, Sous-Directeur de l'Institut Pasteur, Paris, France ; and Dr. A. Macchiavello, US Public Health Service, Consultant Epidemiologist, Pan American Sanitary Bureau, Lima, Peru, also attended the meetings.

Secretariat :

Dr. M. Gaud, Directeur de l'Office International d'Hygiène Publique, Paris, who acted as chairman

Dr. Y. M. Biraud, Director, Division of Epidemiology, WHO

Dr. G. Stuart, Chief, Sanitary Conventions and Quarantine Section, WHO

was easily obtained by a slight and invisible scratch of the lesion with a needle. This interesting observation, which was discussed by the study-group, would suggest the possibility of the minor traumata, due to scratching or even to friction of clothing, causing liberation of the virus in the pre-vesicular stage.

The study-group had discussed during its first session the problem of contagion, beginning with patients in the pre-eruptive phase, as this is of great practical importance in the prophylaxis of smallpox.[2]

Vaccination

The study-group considered the opportunities offered by the French health authorities for extensive and intensive investigations to be made into the vaccinal and serological response of vaccinated and revaccinated infants, children and young adults.

The following suggestions were made for carrying out these investigations :

(*a*) Study of the vaccinal response to annual re-vaccination, up to 5 years of age, of children primarily vaccinated within the first three months of life—care being exercised to have the vaccination and re-vaccinations made with the same technique and with vaccine of the same titre prepared by the same institute ;

(*b*) Study of the vaccinal response of a similar group of children whose primary vaccination was performed between the third and twelfth months of life. In this group, response to annual re-vaccination should be noted yearly up to school-age ;

(*c*) Study, where laboratory facilities exist and children vaccinated at various ages are available, of the vaccinal response to re-vaccination in correlation with the serum antibody titre, such determination to be carried out immediately before, and one month after the re-vaccination, the choice of methods of titrating antibodies (complement fixation, flocculation, hæmo-agglutination) being left to the investigator.

The study-group recommended that WHO take the necessary steps for field trials of the protective value of smallpox vaccine. These experiments are rendered necessary by the fact that " potency tests " of vaccines based on various dilutions of vaccinal virus taken from rabbits do not afford direct proof of the efficacy of vaccinia in protecting man against smallpox. Such trials would be particularly

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[2] *Chronicle WHO*, 1948, **2**, 141

useful for verifying the effectiveness of new types of vaccinia or of new vaccination methods.

Vaccination against Smallpox and Yellow Fever

The intervals which should elapse between the administration to the same individual of smallpox vaccine and of yellow-fever vaccine were examined. It was agreed that yellow-fever vaccine should be administered first and smallpox vaccine 15 days later, so as to reduce to a minimum the possibility of occurrence of post-vaccinal encephalitis. Should, for unavoidable reasons, smallpox vaccine be administered first, an interval of 21 days should elapse before yellow-fever vaccine is inoculated. This precaution did not seem to be necessary in Africa, where encephalitis is non-existent, and where some 17 million combined smallpox and yellow-fever vaccinations have been performed without any encephalitic after-effects.

CHOLERA ENDEMICITY

The second session of the OIHP/WHO Study-Group on Cholera, Paris, 13-15 October 1948,[1] was mainly concerned with the endemicity of cholera. This is an important aspect in the control of the disease, closely related not only to essential quarantine measures—the traditional method of defence—but to offensive action, as

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[1] The following members were present :

Sir Aly Shousha, Pasha, Under-Secretary of State, Ministry of Public Health, Cairo, Egypt ; Chairman, Executive Board, WHO

Dr. C. G. Pandit, Secretary, Indian Research Fund Association, New Delhi, India

Dr. P. Bruce White, National Institute for Medical Research (Medical Research Council), Hampstead, London, United Kingdom

Professeur A. R. Dujarric de la Rivière, Sous-Directeur de l'Institut Pasteur, Paris, France ; Dr. A. Macchiavello, US Public Health Service, Consultant Epidemiologist, Pan American Sanitary Bureau, Lima, Peru ; Dr. O. Ouchterlony, State Bacteriological Laboratory, Stockholm, Sweden ; and Médecin-Général Inspecteur M. A. Vaucel, Directeur du Service de Santé colonial, Ministère de la France d'Outre-Mer, Paris, France, also attended the meetings.

Secretariat :

Dr. M. Gaud, Directeur de l'Office International d'Hygiène Publique, Paris, France, who acted as chairman

Dr. Y. M. Biraud, Director, Division of Epidemiology, WHO

Dr. G. Stuart, Chief, Sanitary Conventions and Quarantine Section, WHO

recommended for some time past by epidemiologists, for the eradication of the disease.

Determination of Cholera Endemic Zones

Cholera has been reported recently only in China, India, Indo-China, Pakistan and Siam. While in certain areas of these countries, such as Southern Indo-China, there seemed to be a continuous presence of the disease, but with a small number of cases (" hypoendemicity "), in Bengal cholera with a much higher incidence prevailed continuously. But even in Bengal cholera was not constantly present in every district.

The study-group agreed to define an endemic area as one in which over a number of years there is practically continuous presence of clinical cholera with seasonal exacerbations of incidence.

In India, the following criteria have been suggested for the determination of endemic, non-endemic and intermediate areas :

(*a*) *Percentage of months without cholera :*

Endemic	less than 30%
Intermediate	30-50%
Non-endemic	over 50%

(*b*) *Mean length in months of intervals between prevalence of cholera :*

Endemic	less than 2.5
Intermediate	2.5 to 4
Non-endemic	over 4

On the basis of the above criteria, 80 out of 180 districts in Bengal were found to be endemic areas, but none in Madras Province.

On the recommendation of the study-group, the WHO Secretariat will prepare world maps of recent cholera incidence and of cholera endemic areas, the essential criterion for the determination of endemicity being continuity of infection rather than the number of persons affected.

It is interesting to note the difference between the fatality-rates observed in true endemic areas, often as low as 7-10%, and in non-endemic areas during epidemics, where they reach 50% and over.

Factors governing endemicity

Research work was carried out in India up to 1942 on vibrios found in tanks and other stored water. *Vibrio cholerœ* Koch was found only when clinical cases existed in the population using the tanks as their water supply, but not during cholera-free periods.

The presence of salt and organic matter was found to be essential to the survival of cholera vibrios, as without salt they died within 24 hours. These findings suggested that survival of cholera vibrio in water was not a proved factor in the persistence of cholera endemicity.

The study-group considered that further investigations should be carried out to determine whether the excretion of cholera vibrios from mild sub-clinical cases of cholera could constitute a link between two cholera outbreaks.

A number of methods were considered :

(*a*) A representative group of population in an endemic area would be subjected for at least one year to periodical rectal swabbing, in order to detect carriers and establish a possible relation between the carrier state and mild diarrhœal conditions ;

(*b*) In selected areas, endemic and non-endemic, all persons dying without medical attendance, irrespective of cause of death, should be subjected to systematic rectal swabbing to detect the presence of cholera vibrios ;

(*c*) Teams of epidemiologists and bacteriologists, familiar with conditions in one endemic area, such as Bengal, could study an endemic area in another country, such as Southern China or Southern Indo-China, and compare conditions in the two areas for the purpose of determining factors governing endemicity.

Numerous problems still remain to be solved, but will have to await further investigation. Among the most important are : the possibility of a reversion from the " rough " to the " smooth " form of vibrio, which, if it occurred in nature, would have important epidemiological repercussions ; the incubation period referred to in

sanitary conventions ; a comparative study of the results obtained with Bandi's test and with the classical methods for diagnosis ; results obtained with Sokhey's anti-cholera vaccine.

In view of the considerable number of problems still awaiting investigation by its members, the group recommended that the next session should not be held before the last quarter of 1949. It was unanimously agreed that it would be most useful to hold this session in a country where cholera is endemic and where the knowledge and experience of local experts could be readily made available to the group.

The group further recommended that WHO should make provision for the organization in 1949 of teams of cholera specialists and for their dispatch in 1950 to selected endemic areas. These teams will demonstrate in limited districts methods of cholera eradication, on the basis of the results expected from field studies, recommended by the group for 1948/49, of the factors governing cholera endemicity.

INTERNATIONAL PROPHYLAXIS OF TRACHOMA

The first session of the Joint OIHP/WHO Study-Group on Trachoma was held in Paris from 9 to 11 October 1948.[1] The previous studies by the League of Nations Health Organization [2] and by

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[1] The following members were present :

Dr. G. Blanc, Directeur de l'Institut Pasteur du Maroc, Casablanca, Morocco

Dr. A. Macchiavello, US Public Health Service ; Consultant Epidemiologist, Pan American Sanitary Bureau, Lima, Peru

Dr. C. G. Pandit, Secretary, Indian Research Fund Association, New Delhi, India

Dr. Abdel Fattah El Tobgui, former Assistant Director, Memorial Ophthalmic Laboratory, Gizeh ; Professor of Ophthalmology, Fouad I University, Cairo, Egypt

Dr. P. Toulant, Professeur de Clinique ophthalmologique, Faculté de Médecine d'Alger, Algeria

Sir Aly Shousha, Pasha, Under-Secretary of State, Ministry of Public Health, Cairo, Egypt, Chairman, Executive Board of WHO ; and Professeur A. R. Dujarric de la Rivière, Sous-Directeur de l'Institut Pasteur, Paris, France, also attended.

Secretariat :

Dr. M. Gaud, Directeur de l'Office International d'Hygiène Publique, Paris, who acted as chairman

Dr. Y. M. Biraud, Director, Division of Epidemiology, WHO

Dr. M. M. Sidky, Medical Officer, Division of Epidemiology, WHO

Dr. G. Stuart, Chief, Sanitary Conventions and Quarantine Section, WHO

[2] See bibliography in *Bull. Hlth Org. L. o. N.* 1945, **11**, 187

members of the study-group, as well as the material collected by the WHO Secretariat, showed that trachoma was present in widely varying incidence in most countries, that it showed a high endemicity in various regions of Asia and in North Africa, and that it was endemic also in countries of Eastern Europe and in a number of American republics. It was practically non-existent in Australasia. It is thus easy to understand why WHO, like previous international health organizations, is paying particular attention to this disease which incapacitates millions of people annually.

Any action against the disease must be based on an exact knowledge of its geographical distribution. The study-group, therefore, reccmmended that WHO should first obtain from governments up-to-date information on the prevalence of trachoma, based on returns from examination of schoolchildren, army recruits and samples of population, as well as on the proportion of trachoma cases to the total number of patients treated in ophthalmic hospitals and clinics.

Definition of Trachoma

The study-group accepted the following definition of trachoma, a slight modification of that originally proposed by Dr. A. F. MacCallan : " Trachoma is a specific and communicable disease of the conjunctiva and cornea, showing at certain stages intracellular inclusions (Prowazek bodies). It has a tendency to become chronic and leads to cicatricial lesions of the tissues affected."

Causative Organism

The group agreed that, under certain conditions, the causal agent of trachoma was filtrable, noting that it showed some specific characteristics which placed it in a special group. The organism, which has been recently isolated and cultivated on chick embryos, bore close relationship to the virus of lymphogranuloma inguinale. In view of the importance of these findings the group recommended that this work should be repeated for purposes of confirmation.

Prophylaxis

Once the geographical distribution of a disease is known, the important thing is to prevent its spread. The study-group agreed that the fundamental method of prophylaxis at present was the

treatment of cases. Sulfonamides and certain antibiotics had proved capable of relieving rapidly the clinical manifestations of trachoma and its associated infections, thus reducing considerably the danger of transmission. The group recommended that investigations be made into the relative efficacy, optimum dosage and mode of administration of these drugs at the various phases of the disease.

Individual treatment, however, is not enough, and certain collective measures are required. The group therefore agreed that as far as possible treatment should be extended to all patients through the medium of stationary or mobile clinics, special attention being paid to schoolchildren in view of the particular frequency of the disease at school-age. It was felt that improvement in environmental hygiene combined with appropriate health education would be helpful in reducing the prevalence.

These measures should be complemented by a systematic international method of prophylaxis. The group unanimously agreed that it was legitimate for health authorities of immigration countries to have stricter requirements both in regard to eye examinations and to control measures, applicable to immigrants.

The study-group, while considering that eradication of trachoma from its endemic foci was the ultimate objective of international control, agreed that international sanitary legislation should include measures designed to prevent the transmission of the disease from one country to another. Particular stress was placed on the desirability of sharply differentiating, in both international and national health legislations, between measures applicable to ordinary travellers and those applicable to immigrants. Measures concerning ordinary travellers should not exceed " surveillance " [3] of individuals showing on arrival an acute eye-condition. Certificates, issued by ophthalmologists of national health-administrations, might facilitate the work of quarantine officers and reduce " surveillance " requirements concerning individuals suffering from eye conditions resembling trachoma but of a different nature.

The final recommendation of the study-group was that WHO should set up an expert committee on trachoma to co-ordinate research and to make available the results to health authorities and to the medical profession.

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[3] " The word *surveillance* means that persons are not isolated . . . They may be subjected in the places of arrival to a medical examination . . . " International Sanitary Convention, 1944. *UNRRA Epidem. Inform. Bull.* 1945, 1, 247

NOTES FROM THE FIELD

Philippines

A small medical teaching mission sponsored jointly by WHO and the Unitarian Service Committee of America is visiting the Philippines, having left New York on 27 October. The team is composed of the following :

Dr. Howard C. Naffziger, Professor of Neurological Surgery, University of California, San Francisco, USA

Dr. J. Murray Steele, Professor of Medicine, New York University College of Medicine, New York, USA

Dr. Gumersindo Sayago, Director of Medical Social Assistance for the Tuberculous, Córdoba, Argentina

Dr. José Amador Guevera, Director-General, Anti-Venereal-Disease League, San José, Costa Rica

Dr. George Curtis, Professor of Surgery, Ohio State University School of Medicine, Columbus, Ohio, USA

The Latin American members of the team were selected in co-operation with the Pan American Sanitary Bureau.

The Philippine Government is defraying the local expenses of the team and the money saved to WHO will be used for the provision of fellowships for the Philippines.

China

News from the WHO staff in China is reassuring. Mr. Morrill, sanitary engineer, who is in charge of the mission, writes from Shanghai that members of the staff are still at their various posts and intend to remain there for the present, except for Dr. Pollitzer, the plague expert, who is at present on leave in the USA.

Greece

Colonel D. E. Wright, Chief of the Malaria and Sanitation Section of the WHO Mission, left Athens on 1 October on retiring at the age limit. Colonel Wright has had a long career in Greece. He went to the country in 1930 and was engaged until 1937 on a general survey of malaria and sanitation problems for the Rockefeller Foundation. He returned to Greece in 1945 with the UNRRA Mission and his secondment from the Rockefeller Foundation was continued to WHO from 1 January 1947. He was responsible, as far as any one individual can be, for the introduction of modern techniques of insect control in Greece. Under his guidance, the malaria service began a nation-wide campaign for the control of malaria by the

use of DDT both as a residual spray and as a larvicide distributed by ground methods and by aerial spraying. The value of his work is shown in the tremendous reduction of malaria which has occurred in Greece.

The malaria-control programme in Greece for 1948 would not have been possible without the assistance of the US Mission of Aid to Greece. It was completed for practical purposes by 15 September for residual spraying and 15 October for aerial spraying and ground larvicide measures. 4,730 communities have been treated with DDT residual spray, as compared with 5,266 in 1947. The disturbed state of the country has unfortunately considerably handicapped the programme in 1948, *e.g.*, 2,722 flying hours were completed by the aerial spraying section as compared with a proposed total of 4,870. The acreage sprayed was 702,705, compared with a programme of 1,217,425.

WHO is co-operating with representatives of the Rockefeller Foundation in a sanitary survey of the island of Crete.

NOTES AND NEWS

Plague

The Joint OIHP/WHO Study-Group on Plague and Typhus (see also p. 252) recognized that the occurrence of human plague depends originally on transmission to man from rodents by their ectoparasites. It also agreed that the human flea, *Pulex irritans*, can be infected in nature and that exceptionally it can acquire infection from men and transmit the infection to animals. Further investigations are required to elucidate the epidemiological role of this parasite.

In view of the existing uncertainty regarding the presence of plague among wild rodents in certain parts of the world, particularly in Africa, the group recommended that WHO should appoint a team of investigators, comprising an epidemiologist, a zoologist and an entomologist to delimit enzoötic plague zones on the spot.

The group studied the favourable results obtained with live vaccines in the prophylaxis of human plague. It considered that in view of the short duration of immunity given by anti-plague vaccines and of the fact that rodents and not men constitute the plague reservoirs, vaccination could not be considered as a means of eradicating human plague and that it was of less importance than measures taken against rodents and ectoparasites.

Dr. Macchiavello agreed to undertake the drawing-up, in accordance with a uniform and modern nomenclature, of a list of animals and their ectoparasites capable of acting as vectors of plague.

Streptomycin in Tuberculous Meningitis

The report of the Subcommittee on Streptomycin [1] was adopted without changes by the Expert Committee on Tuberculosis, which, nevertheless, deemed it necessary to add the following statement:

> "The committee would like to draw the attention of countries using streptomycin in tuberculous meningitis, particularly in children, to one important consideration—that they will have to make some additional provision for continuous hospitalization and convalescence facilities; otherwise badly needed hospital beds will be blocked."

Second World Health Assembly

The Executive Board, at its second session, accepted the invitation of the Italian Government to hold the Second World Health Assembly in Rome, and decided that it should be convened on 13 June 1949. It is expected that the Assembly will last for approximately three weeks.

Third Session of the Executive Board

The Executive Board decided to hold its third session in the Palais des Nations, Geneva, beginning 21 February 1949.

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[1] *Chronicle WHO*, 1948, 2, 215

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